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[54] **BULK GOODS DISPENSER**

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[73] Assignee: **Ready Metal Manufacturing Company**, Chicago, Ill.

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[51] **Int. Cl.**[4] **B67D 5/60**

[52] **U.S. Cl.** **222/108**; 141/317; 220/324; 222/154; 222/185; 222/357; 222/517

[58] **Field of Search** 222/108, 185, 153, 158, 222/356-359, 404, 405, 409, 322, 243, 245, 368, 369, 393, 387, 448, 457, 372, 336, 339, 559, 129, 135, 181; 221/262, 154; 414/3, 8; 141/98, 108, 313, 314, 317, 391; 220/324; 211/126, 128, 133

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[57] **ABSTRACT**

A bulk goods dispenser having a bin for holding the bulk goods which can be removed by a manipulator mounted in a dispensing unit communicating with the interior of the bin, the removed bulk goods being temporarily collected in a chute prior to being dispensed by a trap door into a bag which is attachable to walls of the chute, the walls being provided with holding horns. The trap door is held in a closed position by a spring member until released by a handle. The manipulator has a scoop for moving the bulk goods over a slanting wall in the bin. The bin has a slidable cover which can be locked. The dispenser unit can also be locked to the bin. A false bottom can vary the holding capacity of the bin.

3 Claims, 4 Drawing Figures

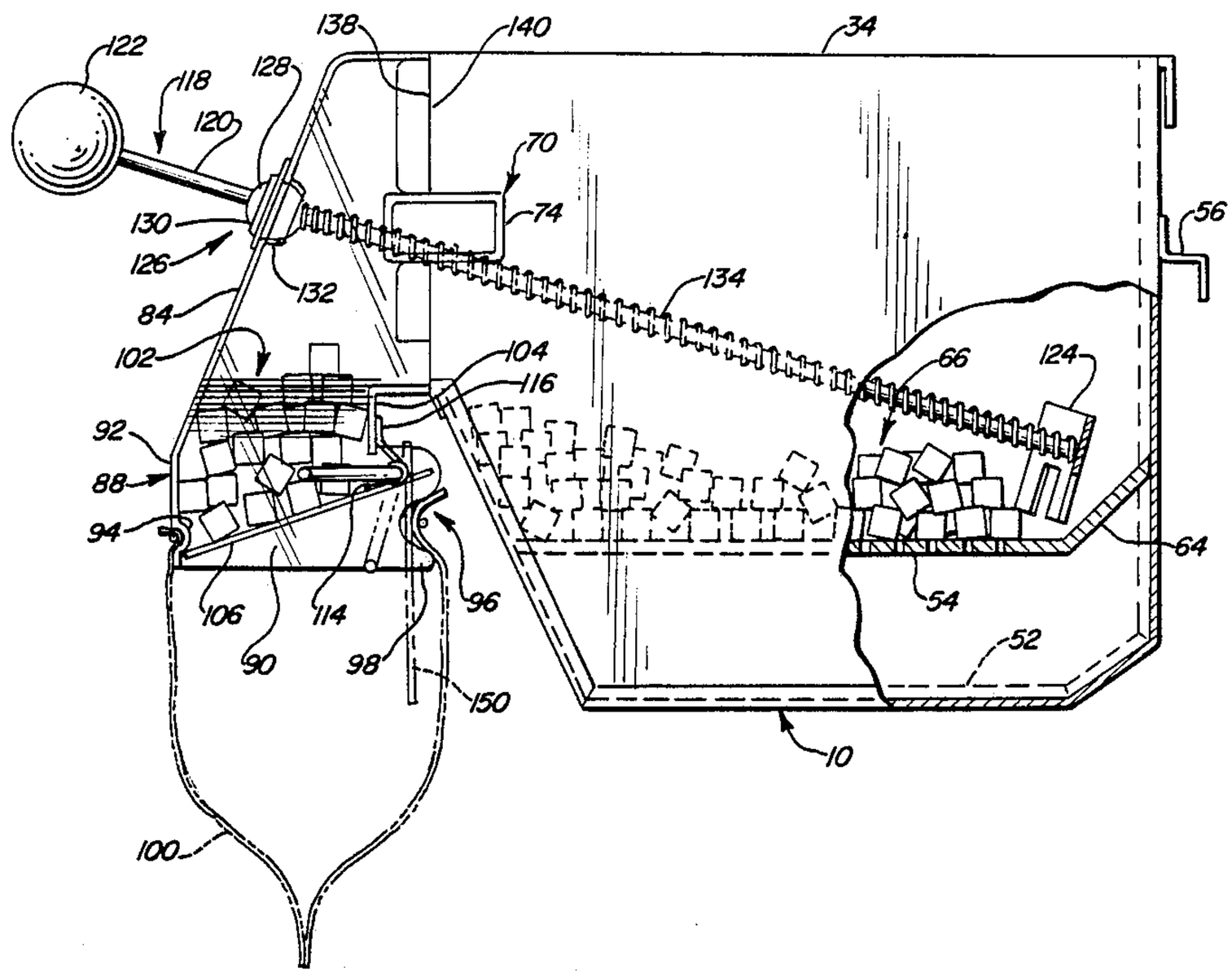
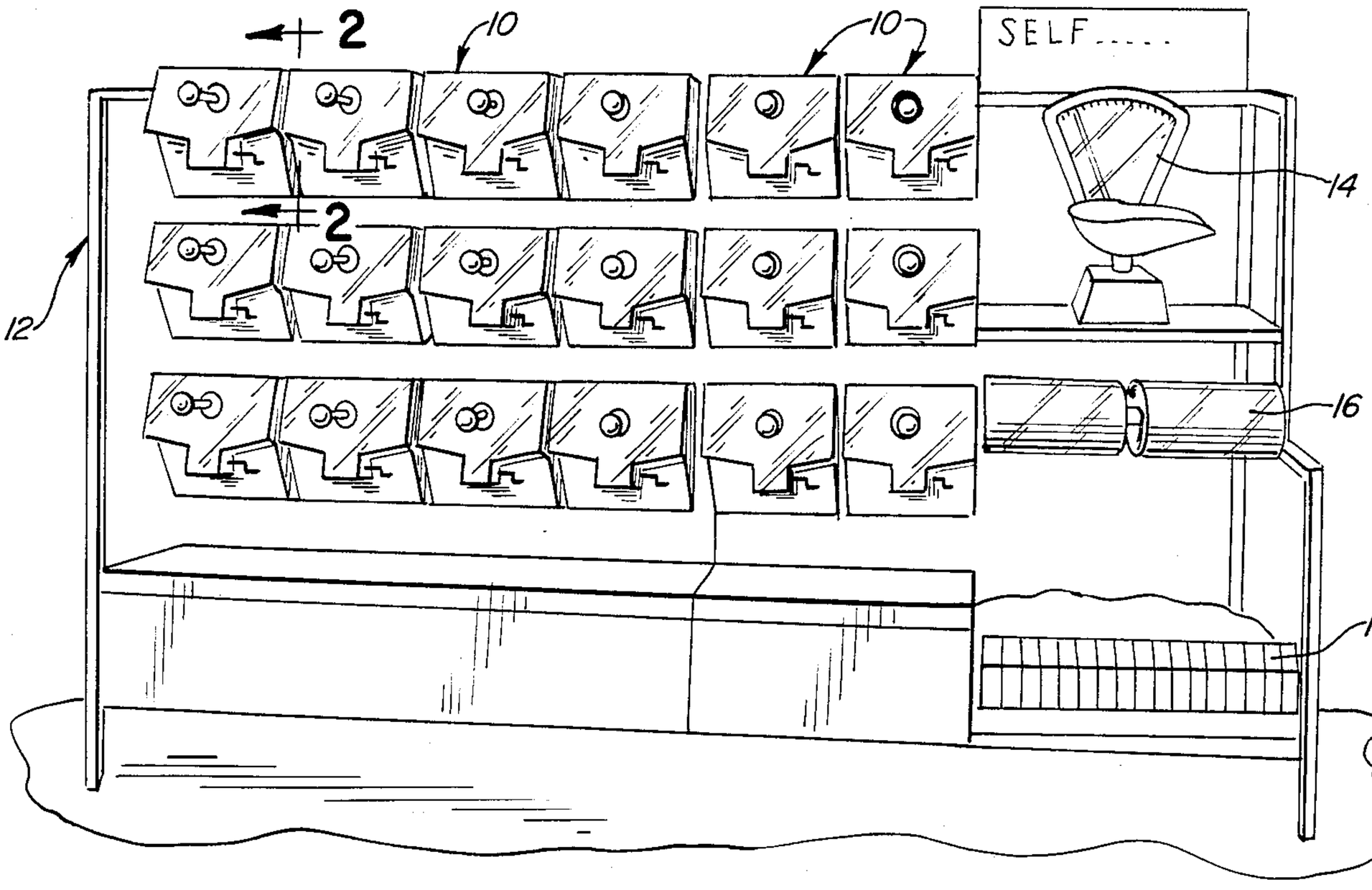


FIG. 1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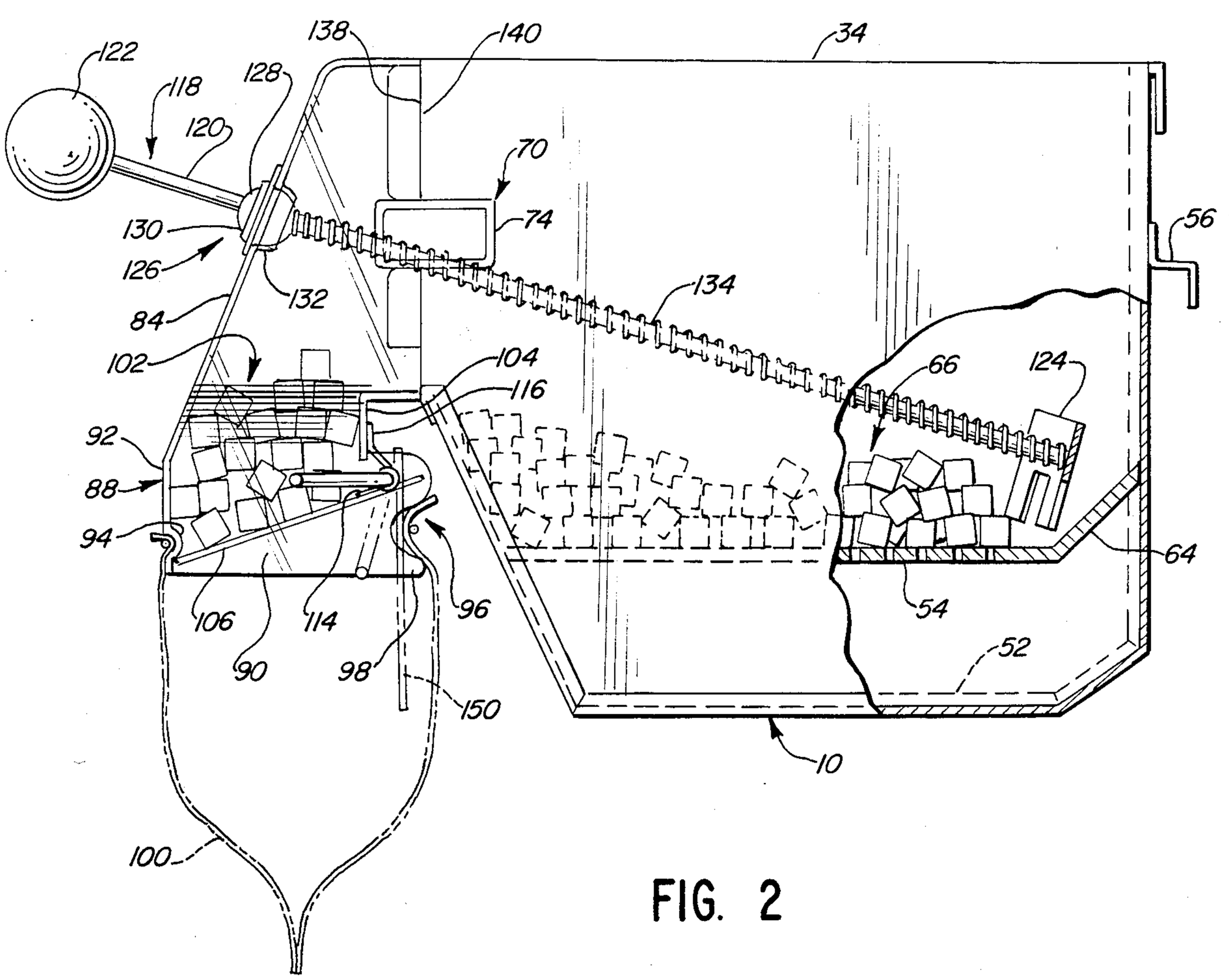
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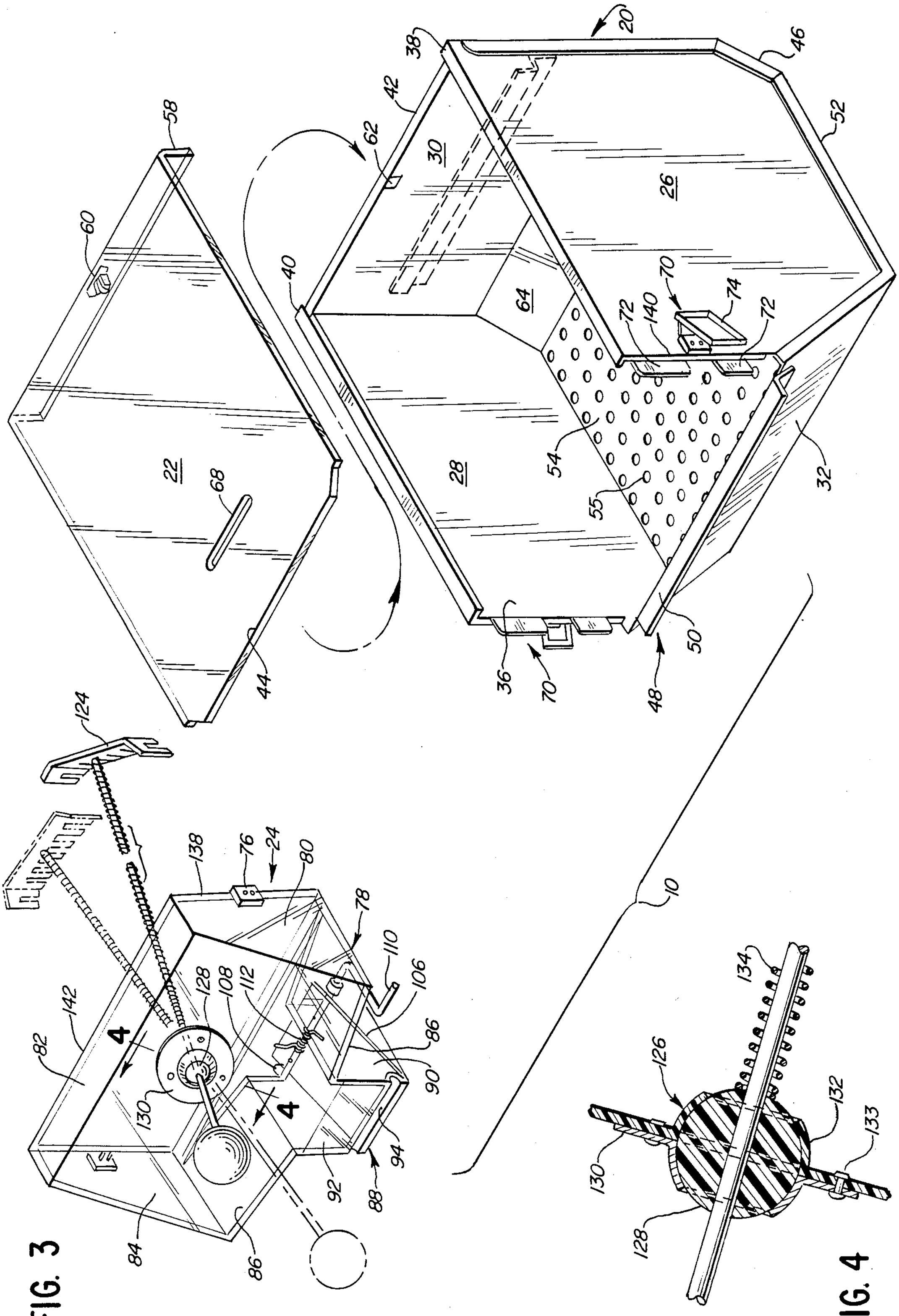
FIG. 2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124
10
138
76
24
80
78
110
106
142
128
108
112
82
4
130
86
90
94
92
88
84
86
134
126
132
130
133
128

FIG. 3

FIG. 4

BULK GOODS DISPENSER

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates generally to a dispensing device, and more particularly for dispensing bulk goods from storage containers.

2. Description of the Prior Art

Although most particulate foods such as candy, beans, rice, etc., are available in packaged containers in retail stores, there is a trend toward dispensing such foods from bulk containers, usually in stores stressing self service by customers. Generally, such bulk foods are kept in containers from which they can be reomved by a customer by using a scoop to fill a predetermined amount into a bag which is then weighed. Such containers containing the bulk foods are generally open or covered. However, the complete interior of the containers is totally exposed to the public. To limit the amount of exposure of the bulk goods, it is preferable to use dispensers which deny access to the interior of the dispenser except through an intermediary of a mechanical arrangement for scooping out the desired amount of the bulk goods into a bag or container.

A number of dispensers have been developed for dispensing various particulate foods. For example, U.S. Pat. No. 669,075 describes a vending tray for dispensing heated peanuts. However, the dispensing arrangement is incomplete in that it requires a sales clerk to use an additional scoop to place the peanuts in a bag. In another form a dispenser, U.S. Pat. No. 2,119,224 describes an arrangement for dispensing cherries, one at a time, as required in the prparation of a cocktail. This type of a dispenser would not be proper for dispensing particulate food. None of the foregoing dispensing arrangements are adaptable for use in a store in which customers help themselves to different particulate foods.

SUMMARY OF THE INVENTION

It is the object of the invention to provide a bulk goods dispenser having an interior chamber filled with particulate goods which are visible through transparent walls of the dispenser, the dispenser being provided with mechanical means for removing a predetermined portion of the goods into a chute area which can be opened to permit the garnered goods to fall into a bag secured below the chute.

It is an object of the invention to provide a bulk goods dispenser that can be adjusted to obtain one or more sized chambers for displaying various quantities of the bulk goods. This is provided by means of a false bottom that can be elevated to desired heights to achieve different capacities of a storage bin.

It is a further object of the invention to provide a dispenser with a mechanical means for scooping out a predetermined amount of bulk goods into an intermediate area so that, after a predetermined amount of bulk goods has been scooped up, the scooped bulk goods are then released through a trap door into a bag or container for weighing.

It is a further object of the invention to present a novel housing for the dispenser that can be easiy taken apart for cleaning and which can be set up to be locked so that access into the interior of the dispenser cannot be obtained by the general public.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention will now be described in reference to the following drawings, wherein:

FIG. **1** shows a plurality of bulk goods dispensers arranged on a rack provided with a scale and rolls of dispensable plastic bags;

FIG. **2** is an enlarged sectional side view of the dispenser;

FIG. **3** is an exploded view showing the various components comprising the dispenser; and

FIG. **4** is an enlarged sectional view taken along lines **4—4** of FIG. **3**.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to FIG. **1**, there is shown a plurality of dispensers **10** arranged in columns and rows on a rack **12**, which also supports a weighing scale **14**, rolls of plastic bags **16**, and a trash disposal bin **18**.

As particularly shown in FIG. **3**, the dispenser **10** comprises a bin **20**, a top cover **22** for the bin, and a dispensing unit **24**.

The bin **20** has a pair of side walls **26**, **28**, a back wall **30**, a slant wall **32**, and the top cover **22**. An opening **36** defined by the top cover **22**, the spaced side walls **26** and **28**, and the slant wall **32**, is adapted to receive the dispensing unit **24**.

The spaced walls **26** and **28** are provided with slide flanges **38** and **40** which define a sliding path for the top cover **22** as it is inserted between the slide flanges **38** and **40** and over a top **42** of the back wall **30**. When the top cover **22** is in a position covering the bin **20**, a front edge **44** of the top cover is chamfered and is adapted to engage in a groove in the dispenser unit **24**, as will be described later.

As shown in FIG. **3**, the walls of the bin are secured together by a frame work **46**. Alternatively, the walls of the bin can be secured together by cementing. The upper portion of the slant wall **32** is provided with a bracket **48** which has a lip **50** for supporting the bottom of the dispensing unit **24** when the dispenser **10** is fully assembled. The bin **20** has a bottom **52** and an adjustable false bottom **54** which can be adjusted vertically above the bottom **52** by any appropriate means to thereby provide different capacities for holding the bulk goods. The false bottom **54** is provided with a plurality of apertures **55** which permit broken particles of the comminutated goods **66** to fall through and collect on the bottom **52**. The back wall **30** is provided with a hanging bracket **56** which is adapted to engage a horizontal bar (not shown) on the rack **12**. The top cover **22** is provided with a flange **58** provided with a lock member **60** which cooperates with an apeture **62** in the back wall **30** for securing the top cover **34** to the bin **20**. The false bottom **54** is provided with a slanting portion **64** which urges forwardly the bulk goods **66** toward the slant wall **32**. The top cover **22** is provided with a finger hold **68** which facilitates the movement of the top cover in forward or rearward directions. The upper portions of the side walls **26** and **28** are provided with clamping members **70**, each clamping member having a pair of slides **72** abutting the inside surfaces of the side walls, a clasp member **74** and an anchor member **76** which is secured to the dispensing unit **24**. To attach the dispensing unit **24** to the bin **20**, the clasp member **74** is moved forwardly to engage the anchor member **76** and is then moved backwardly to complete the securement.

The dispensing unit **24** comprises an integrally molded housing **78** having a pair of side walls **80**, a top wall **82**, a slant wall **84**, and a pair of bottom walls **86** which are spaced from each other and inbetween define a chute **33** which has a pair of spaced side walls **90** and a front wall **92**.

As best viewed in FIG. **2**, the lower portion of the front wall **92** of the chute **88** is provided with a semi-circular indentation **94**, and the side walls **90** of the chute **88** are provided with semi-circular indentations **96** which define a pair of horns **98** which, in conjunction with the semi-circular indentation **94**, cooperate to define a support over which a bag **100** may be draped for the purpose of receiving a quantity of bulk goods accumulated in the chute **88**. Between the side walls **90**, the front wall **92**, and a back wall **104**, a trap door **106** is swingably supported in the chute **88**.

As best seen in FIG. **3**, the trap door **106** is movably supported on a shaft **108** passing through apertures in the side walls **90**. One end of the shaft **108** terminates in a handle **110** which can be manipulated to depress the trap door **106** to permit the accumulated bulk goods **102** to fall into the bag **100**. To maintain the trap door **106** in a closed position, a spring **112** is coiled around a portion of the shaft **108** and has one end **114** abutting the trap door **106** and another end **116** abutting the outside surface of the back wall **104**. When the handle **110** is pivoted counterclockwise, the trap door **106** moves in a downward direction to assume the phantom position **150** shown in FIG. **2**, whereupon the bulk goods **102** in the chute **88** will fall into the bag **100**.

The dispensing unit **24** is provided with a manipulator **118** which comprises a rod **120** having one end thereof terminating in a ball **122**, and the other end terminating in a scoop **124**. The rod **120** passes through a ball joint **126** supported by the slant wall **84**. The ball joint **126** has a ball **128** supported in the slant wall **84** by a ring plate **130** and a partially spherical indentation **132** in the slant wall **84** to accommodate the spherical contour of the ball **128**. The plate **130** is appropriately secured by a member such as a rivet **133** to the slant wall **84**.

In order to maintain the scoop **124** in its most inward position, a helical spring **134** extends, under compression, between the scoop **124** and the ball **128**. The ball joint **126** is best viewed in the enlarged partial sectional view shown in FIG. **4**.

Preferably, the structural wall components of the dispenser **10** are made from a clear plastic material to provide maximum visibility.

After the bin **20** is filled with bulk goods, the dispensing unit **24** is fitted to the bin **20** by placing the bottom walls **86** of the housing **78** on top of the lip **50**, and then the housing **78** is centered with respect to the bin **20** so that edges **138** of the side walls **80** engage the slides **72** and abut the edges **140** of the side walls **26** and **28** of the bin **20**. Thereafter, the clasp members **74** are fitted over the anchor members **76**, and the clasp members **74** are then forced toward the back wall **30** to complete the clamping securement. The top wall **82** of the housing **78** has an edge **142** which abuts the edge **44** of the top cover **34**.

The clamping member **70** may be of the type requiring a special tool for opening so that unauthorized access is denied to the public.

As can be readily seen, the dispenser **10** can be removed from its mounted position on the rack **12** and then disassembled by removing the dispensing unit **24** from the bin **20**. Thereafter, the top cover **34** and the false bottom **54** can be removed, and all of the components can be easily cleaned.

Since the rod **120** is threadedly connected to the ball **122** and the scoop **124**, the manipulator **118** can be taken apart for cleaning purposes. Furthermore, a different type of a scoop can be attached to the rod **120**, as may be required, for functioning properly in scooping bulk goods or materials having different physical properties.

Although the dispenser has been described with particularity as to detail, it is not the intention to limit the construction to the particular form described and shown herein, since modifications may be made therein without departing from the spirit of the invention.

What is claimed is:

1. A dispenser for dispensing particulate goods directly into a receptacle, comprising a bin for receiving and storing said particulate goods, said bin having walls defining a goods receiving opening, one of said walls slanting upwardly from the bottom of said bin toward said opening and defining a ledge, a dispenser unit supported on said ledge in abutting relationship closing off said receiving opening, means for detachably securing said dispenser unit to said bin, said dispenser unit having a housing formed by walls including a transparent front slanted wall and a pair of spaced bottom walls defining with a portion of said front wall a downwardly extending chute having a retractable trap door resiliently biased into a closed position by a spring, a handle secured to said trap door and passing through spaced walls of said housing for pivotally mounting said trap door on said housing, and a manipulator extending through said front wall and retractably mounted for scooping a portion of said particulate goods of said bin into said chute.

2. A dispenser according to claim **1**, including a false bottom provided with apertures and supporting said particulate goods, said apertures sifting minute broken particles in the goods.

3. A dispenser according to claim **1**, wherein said front slanted wall facilitates the movement of said particulate goods withdrawn by said manipulator into said chute.

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